

ABSTRACT

Crawler belt bushings and their producing methods, with which productivity and cost performance can be improved over the carburization treatment and the induction hardening treatment. After a workpiece made from steel is heated from its outer circumferential surface such that at least the surface temperature of the inner circumferential surface of the workpiece is raised to a quenching temperature, a series of quenching operation is performed to form quench hardened layers which extend toward the core from the inner and outer circumferential surfaces respectively and a soft, imperfectly hardened layer between these quench hardened layers. The quenching operation comprises: cooling the workpiece from the inner circumferential surface; cooling the workpiece from the inner circumferential surface while heating from the outer circumferential surface; and cooling the workpiece from the outer circumferential surface.